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they can immediately form some judgement both of colours and distances, and even of the outline of strongly defined objects.

That when children have been born with cataracts, the crystalline humour has generally been found, either in a soft or a fluid state; and that in these cases, if the capsule be simply punctured with a couching-needle, there is reason to expect that the opaque matter will sooner or later be absorbed, and the sight be restored, and that should any opacity in the capsule itself render this operation ineffectual, the other, viz. that of extraction, may still be resorted to with every prospect of success.

Lastly, that this operation of couching being much more easy than that of extraction, it may be attempted at a very early period; and that thus the benefit of education may be afforded to children much sooner than if they were to wait till the proper age for extraction.

Mr. Ware acknowledges in a note, that about a month after the above operation he couched the other eye of his young patient, but that he did not prove equally successful: this he ascribes to some opacity in the capsule, which was incapable of being absorbed. The eye, however, he adds, remained as fit as ever for another operation.

An Account of some Galvanic Combinations, formed by the Arrangement of single metallic Plates and Fluids, analogous to the new Galvanic Apparatus of Mr. Volta. By Mr. Humphry Davy, Lecturer on Chemistry in the Royal Institution. Communicated by Benjamin Count of Rumford, V.P.R.S. Read June 18, 1801. [Phil. Trans. 1801, p. 397.]

Those who have attended to the latest experiments on galvanism, will recollect that the combinations hitherto used in that curious process consist of a pile of successive pairs of two metals, or of one metal and charcoal, and a stratum of fluid between each pair; and that the agencies of these combinations have been generally ascribed to the different powers of the metals to conduct electricity. Our author in the present paper states some arguments founded on experiments, from which it appears that an accumulation of galvanic influence, exactly similar to that produced in the above-mentioned pile, may be effected by the arrangement of single metallic plates, or arcs, between strata of different fluids. What first led to the discovery was the observation that the galvanic effects were readily produced when the metallic pairs were alternated with acids or other fluids capable of oxidating one only of the metals of the series. Double plates, for instance, composed of silver and gold, produced galvanic action when placed in contact in the common order with cloths moistened in diluted nitric acid; and plates of copper and silver when nitrate of mercury was used. It was hence inferred that galvanic effects might be produced if single metallic plates could be connected together by different fluids, in such a manner that one of their surfaces only should undergo oxidation, the arrangement in other respects being regularly progressive.

The first experiments were made with tin, small plates, or arcs, of which were made to alternate with acid and water. About twenty sets of these produce a galvanic battery, in which the wire from the oxidating surface of the plates evolved hydrogen, and that from the non-oxidating surface (when of silver) deposited oxide. The second series consisted of plates, or arcs, of silver, copper, or lead, placed alternately between cloths steeped in water, and in solution of sulphuret of potash. The effects of this combination were much more perceptible than those of the preceding. And a still more powerful battery was obtained by using metallic substances oxidable in acids, and capable of acting on solutions of sulphurets, and connecting them with oxidating fluids, and solutions of sulphurets of potash, in such a manner that the opposite sides of every plate may undergo different chemical changes. How this is to be effected is here explained at length, and an apparatus, contrived by Count Rumford, is lastly mentioned, for facilitating and giving permanency to the alternate succession of the different substances, so as to prevent, particularly in the fluids, the interference with each other, which would materially affect the results.'

A Continuation of the Experiments and Observations on the Light which is spontaneously emitted from various Bodies ; with some Experiments and Observations on Solar Light, when imbibed by Canton's Phosphorus. By Nathaniel Hulme, M.D. F.R.S. and A.S. Read June 18, 1801. [Phil. Trans. 1801, p. 403.]*

A short description is here premised of an apparatus for exposing luminous bodies to different kinds of air, which, in addition to the well-known glass phial or tube inverted in water, consists in a small stand, to the top of which the luminous substance is fixed, and thus inserted into the inverted phial, into which the species of air to be employed is previously let up to the quantity of about eight ounces.

With these instruments a copious set of experiments has been made, of which the following are the principal results.

In common or atmospherical air, all the objects which abound with spontaneous light in a latent state, such as herrings, mackerel, &c., do not emit it when deprived of life, except from such parts as have been some time in contact with the air. Nor does the blast of a pair of bellows increase this species of light, as it does that which proceeds from combustion.

Oxygen gas does not act upon this kind of light so as to render it much more vivid than atmospherical air. And as to azotic gas, which is incapable of supporting light from combustion, it is remarkable that it should be so favourable to the spontaneous light emitted from certain fishes, as to preserve its existence and brilliancy when immersed in it, while it prevents the flesh of herrings and mackerel from becoming luminous, and extinguishes the light proceeding from rotten wood.

* See Phil. Trans. for 1800, p. 161.